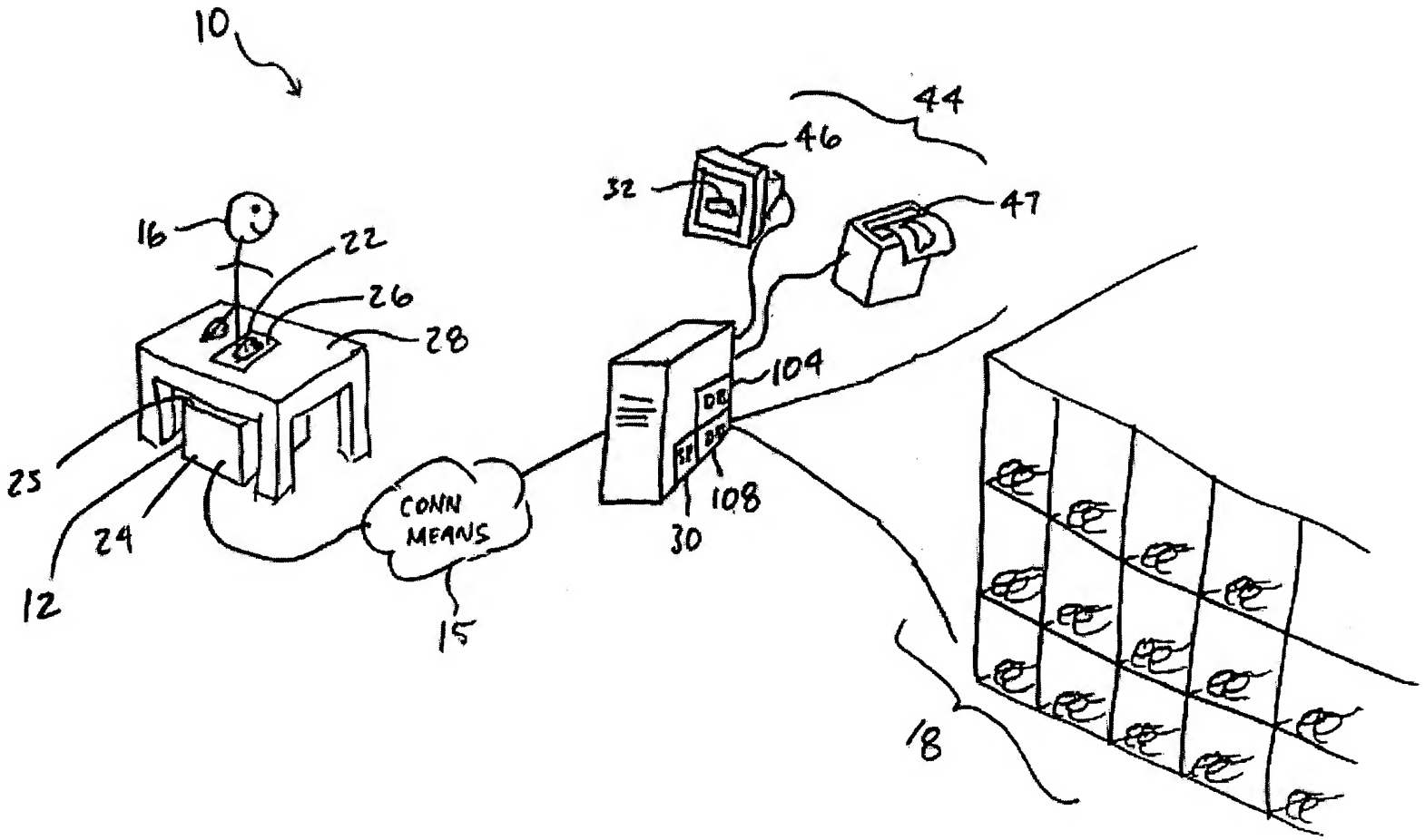

FIGURE 1

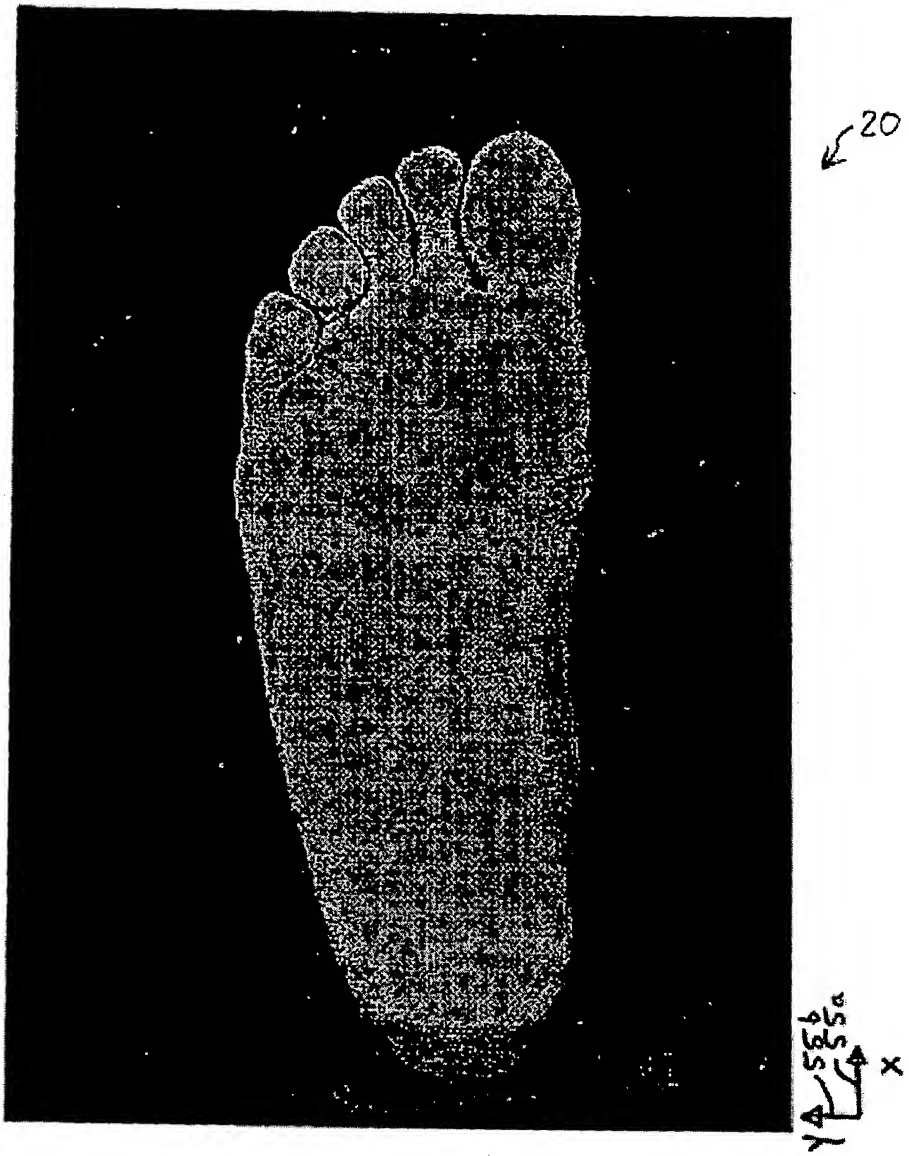

FIGURE 2

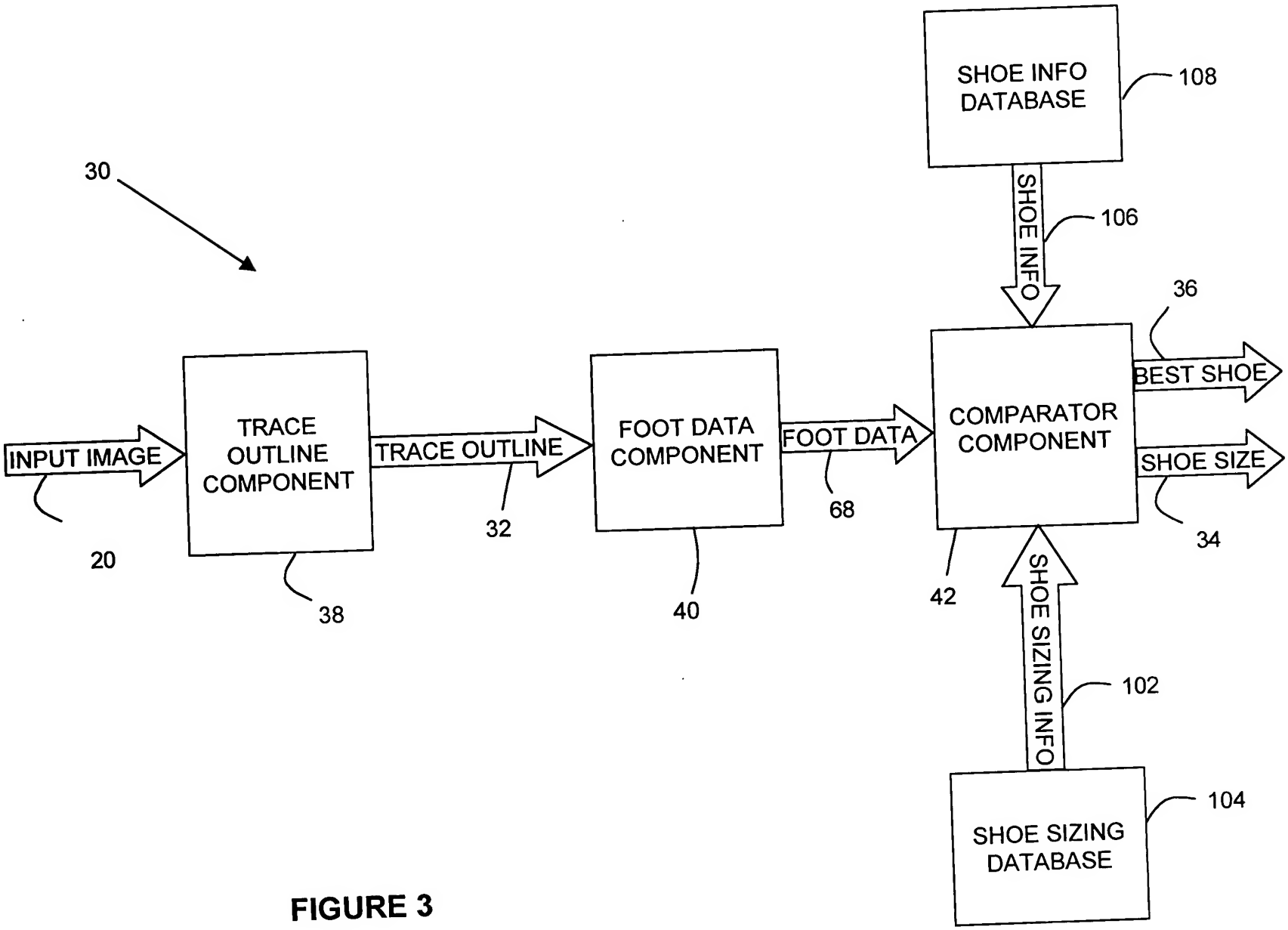
30
SHOE INFO DATABASE
108
SHOE INFO
106
36
INPUT IMAGE
TRACE OUTLINE COMPONENT
TRACE OUTLINE
FOOT DATA COMPONENT
FOOT DATA
COMPARATOR COMPONENT
BEST SHOE
SHOE SIZE
20
38
32
40
68
42
34
SHOE SIZING INFO
102
SHOE SIZING DATABASE
104

FIGURE 3

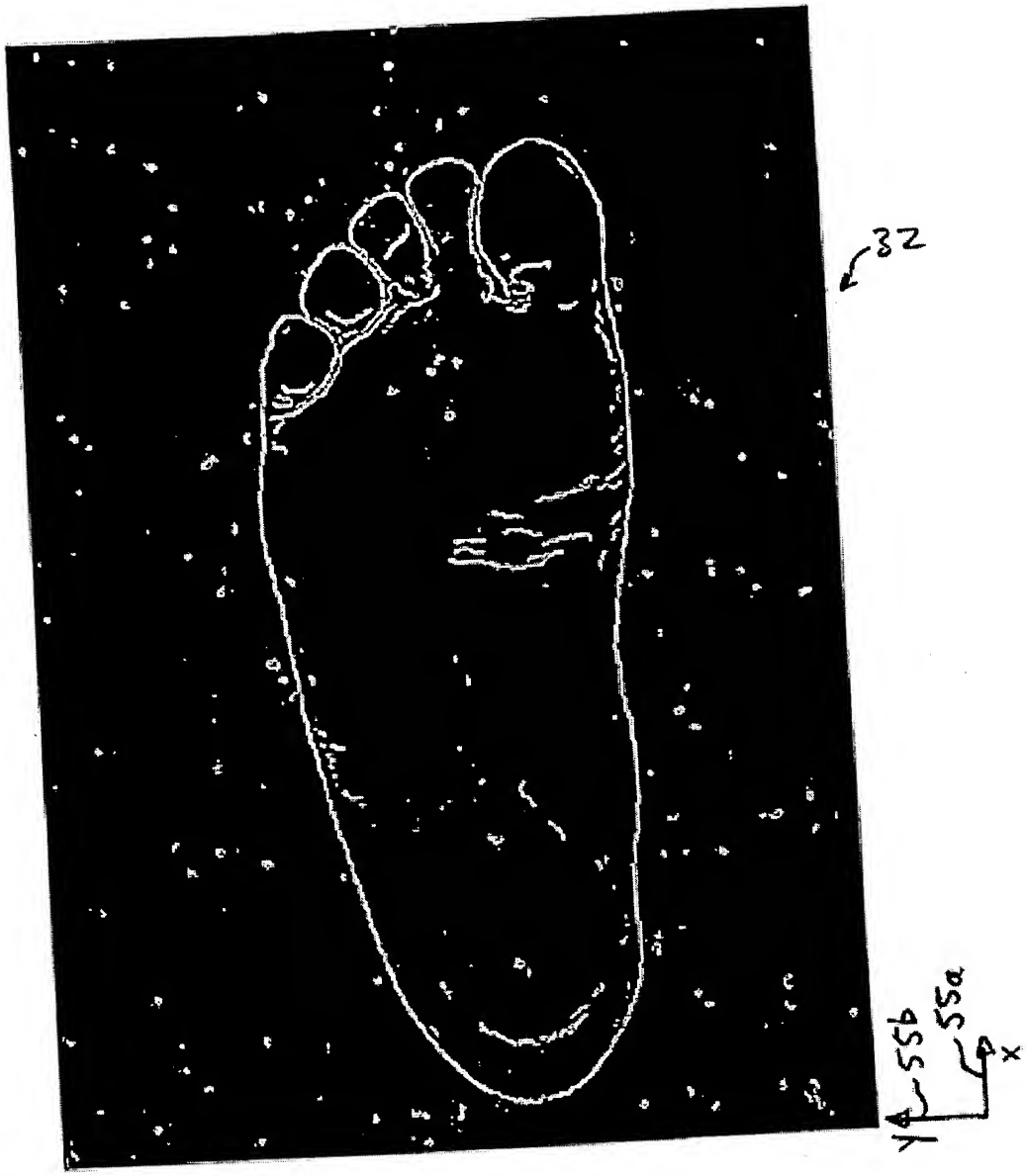

FIGURE 4

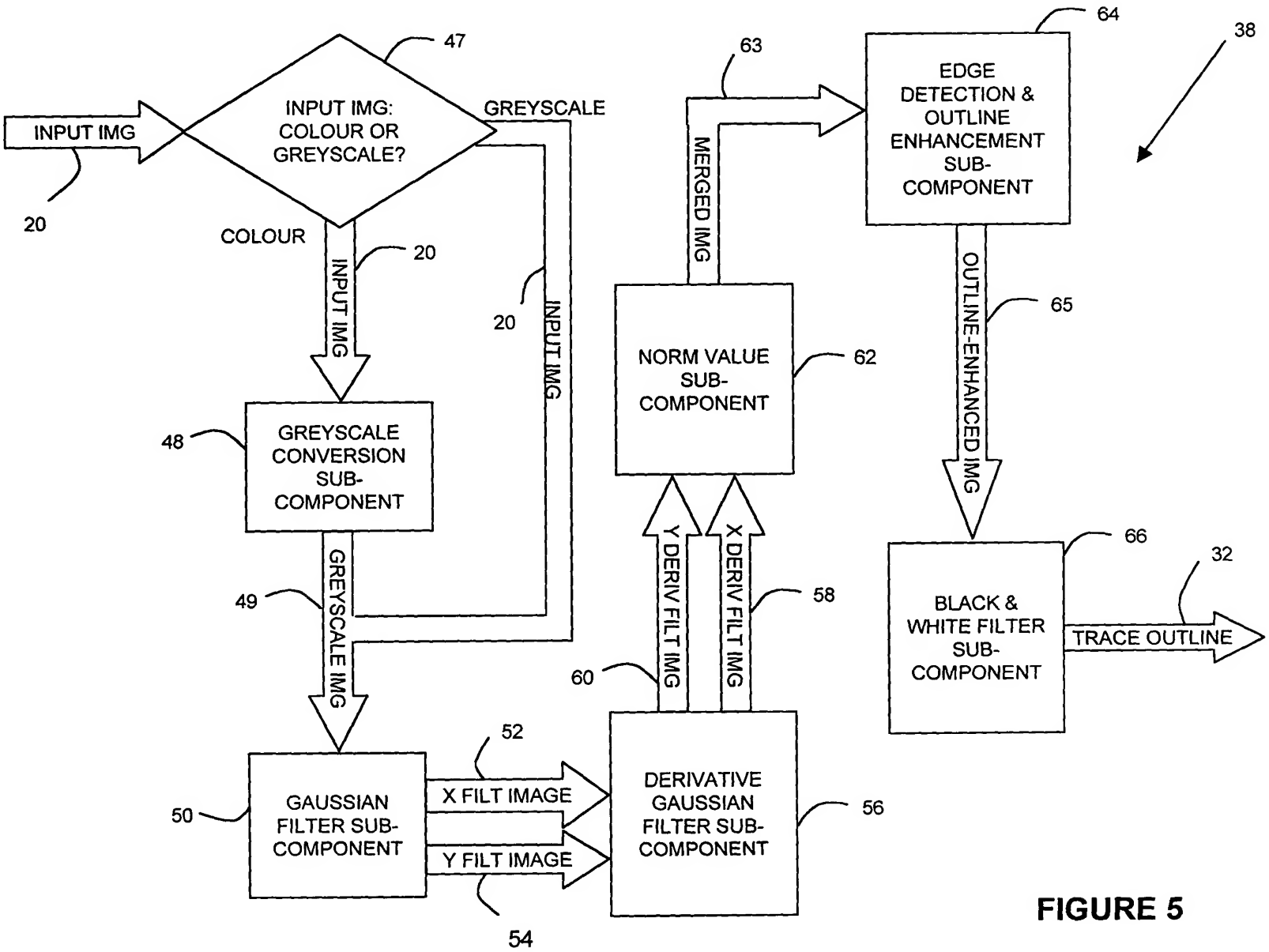
INPUT IMG
20
INPUT IMG: COLOUR OR GREYSCALE?
47
GREYSCALE
COLOUR
INPUT IMG
20
20
INPUT IMG
48
GREYSCALE CONVERSION SUB-COMPONENT
49
GREYSCALE IMG
50
GAUSSIAN FILTER SUB-COMPONENT
52
X FILT IMAGE
Y FILT IMAGE
54
DERIVATIVE GAUSSIAN FILTER SUB-COMPONENT
56
60
Y DERIV FILT IMG
X DERIV FILT IMG
58
NORM VALUE SUB-COMPONENT
62
MERGED IMG
63
EDGE DETECTION & OUTLINE ENHANCEMENT SUB-COMPONENT
64
38
OUTLINE-ENHANCED IMG
65
BLACK & WHITE FILTER SUB-COMPONENT
66
TRACE OUTLINE
32

FIGURE 5

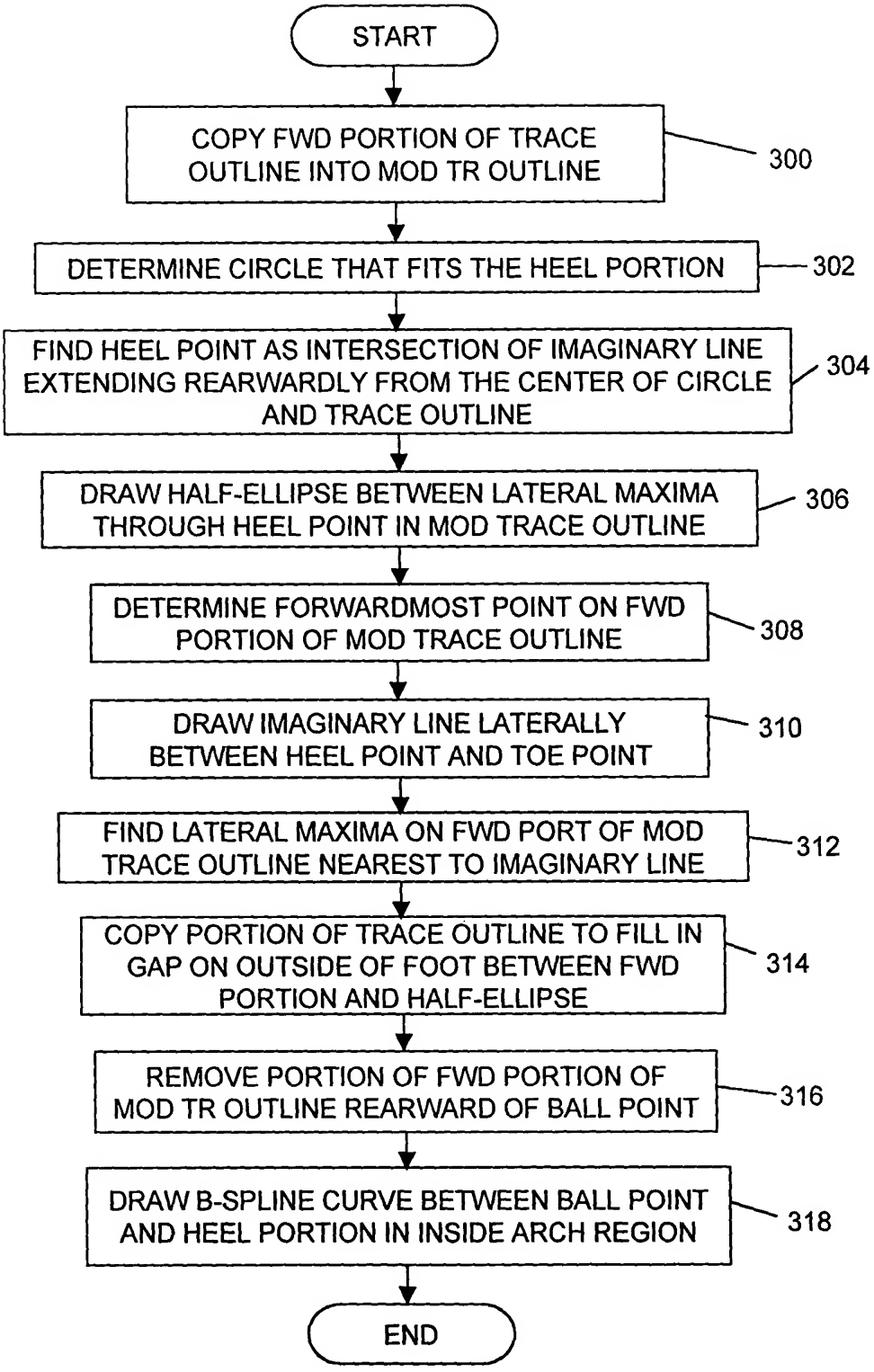
START
COPY FWD PORTION OF TRACE OUTLINE INTO MOD TR OUTLINE
300
DETERMINE CIRCLE THAT FITS THE HEEL PORTION
302
FIND HEEL POINT AS INTERSECTION OF IMAGINARY LINE EXTENDING REARWARDLY FROM THE CENTER OF CIRCLE AND TRACE OUTLINE
304
DRAW HALF-ELLIPSE BETWEEN LATERAL MAXIMA THROUGH HEEL POINT IN MOD TRACE OUTLINE
306
DETERMINE FORWARDMOST POINT ON FWD PORTION OF MOD TRACE OUTLINE
308
DRAW IMAGINARY LINE LATERALLY BETWEEN HEEL POINT AND TOE POINT
310
FIND LATERAL MAXIMA ON FWD PORT OF MOD TRACE OUTLINE NEAREST TO IMAGINARY LINE
312
COPY PORTION OF TRACE OUTLINE TO FILL IN GAP ON OUTSIDE OF FOOT BETWEEN FWD PORTION AND HALF-ELLIPSE
314
REMOVE PORTION OF FWD PORTION OF MOD TR OUTLINE REARWARD OF BALL POINT
316
DRAW B-SPLINE CURVE BETWEEN BALL POINT AND HEEL PORTION IN INSIDE ARCH REGION
318
END

FIGURE 6

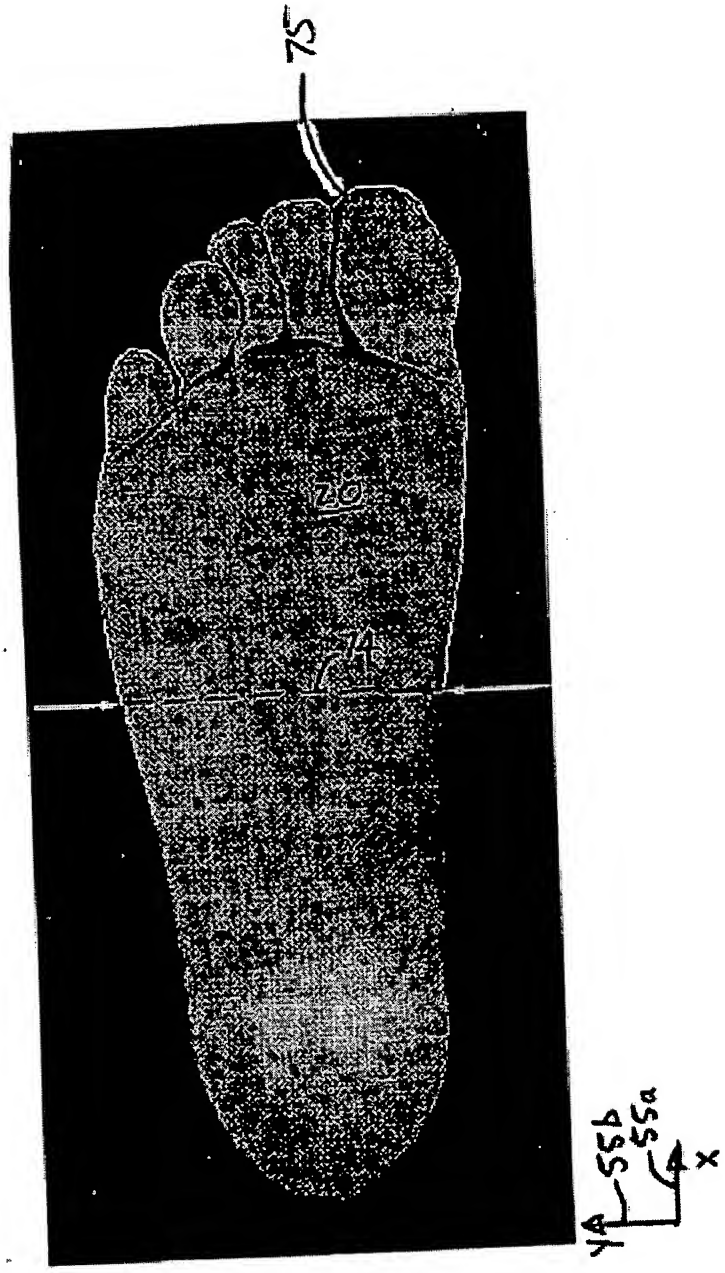

FIGURE 7

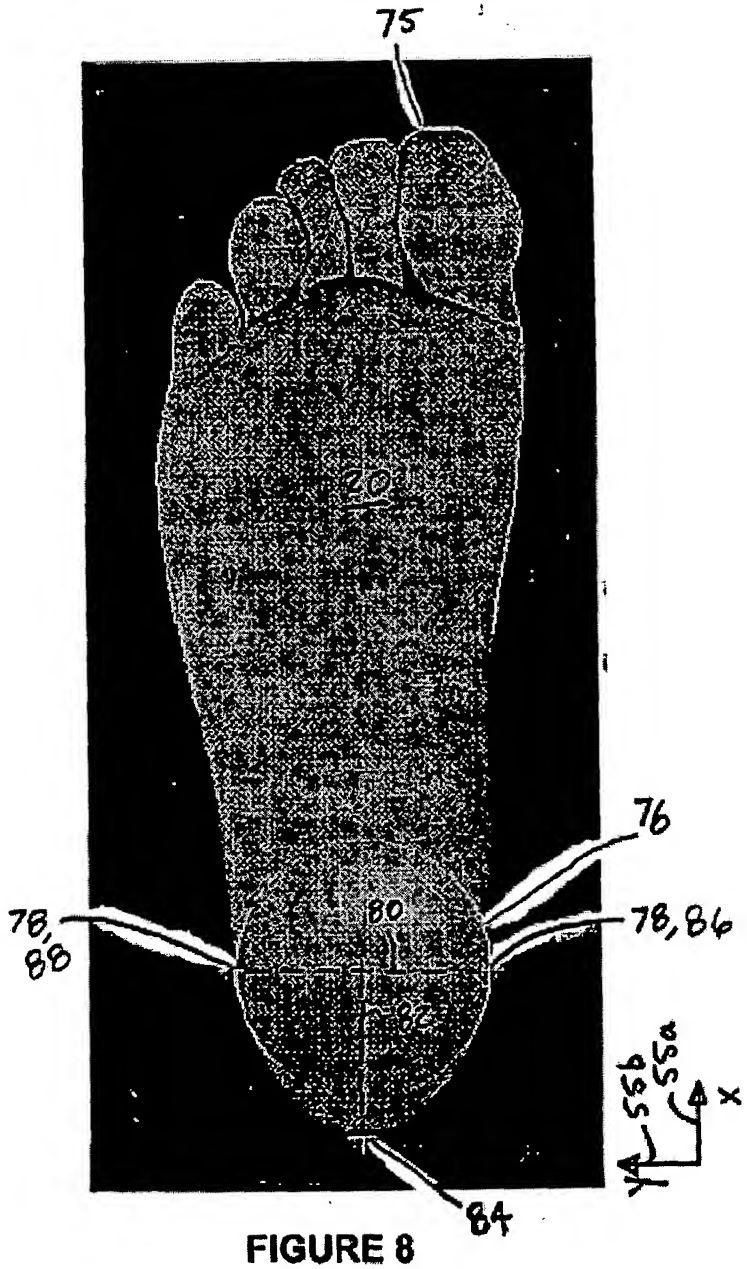

FIGURE 8

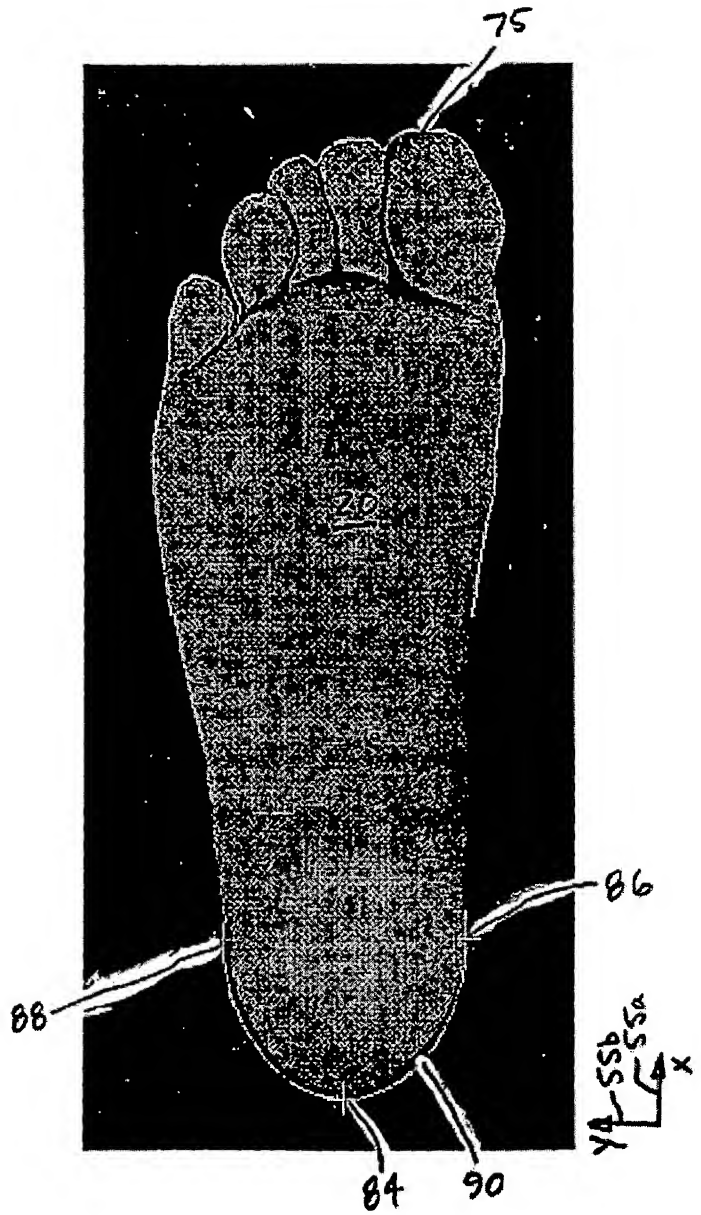

FIGURE 9

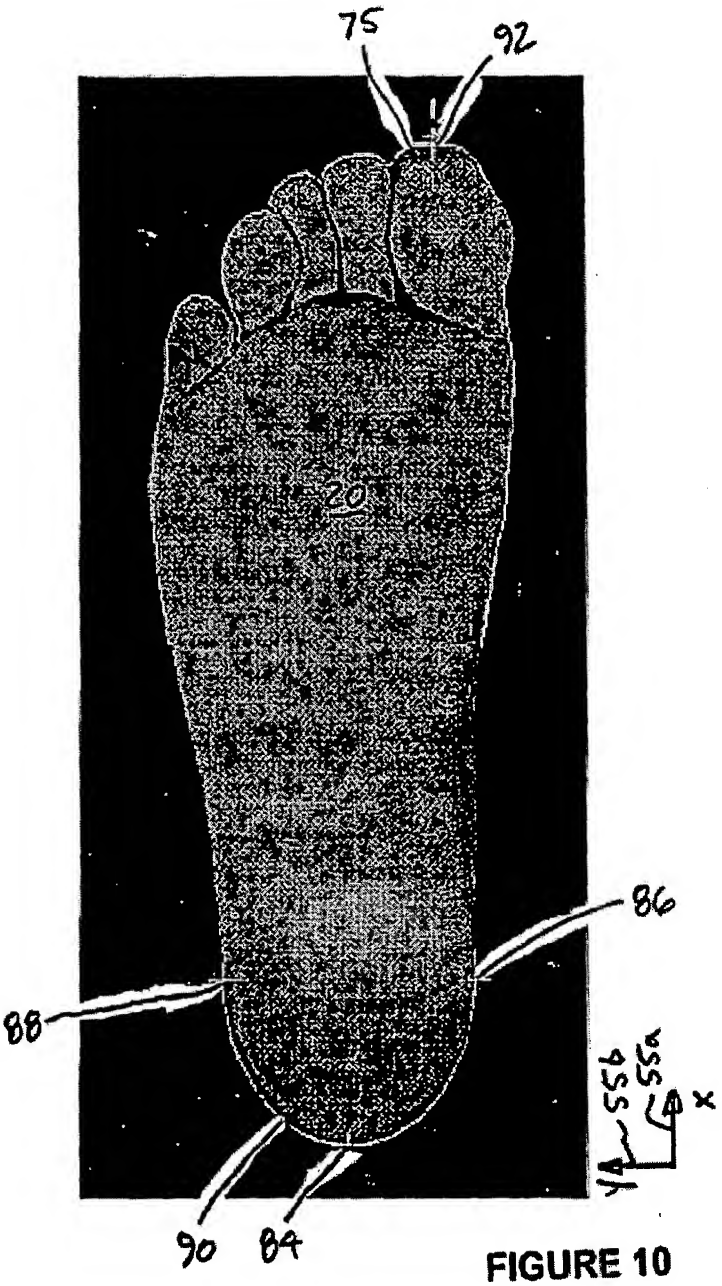

FIGURE 10

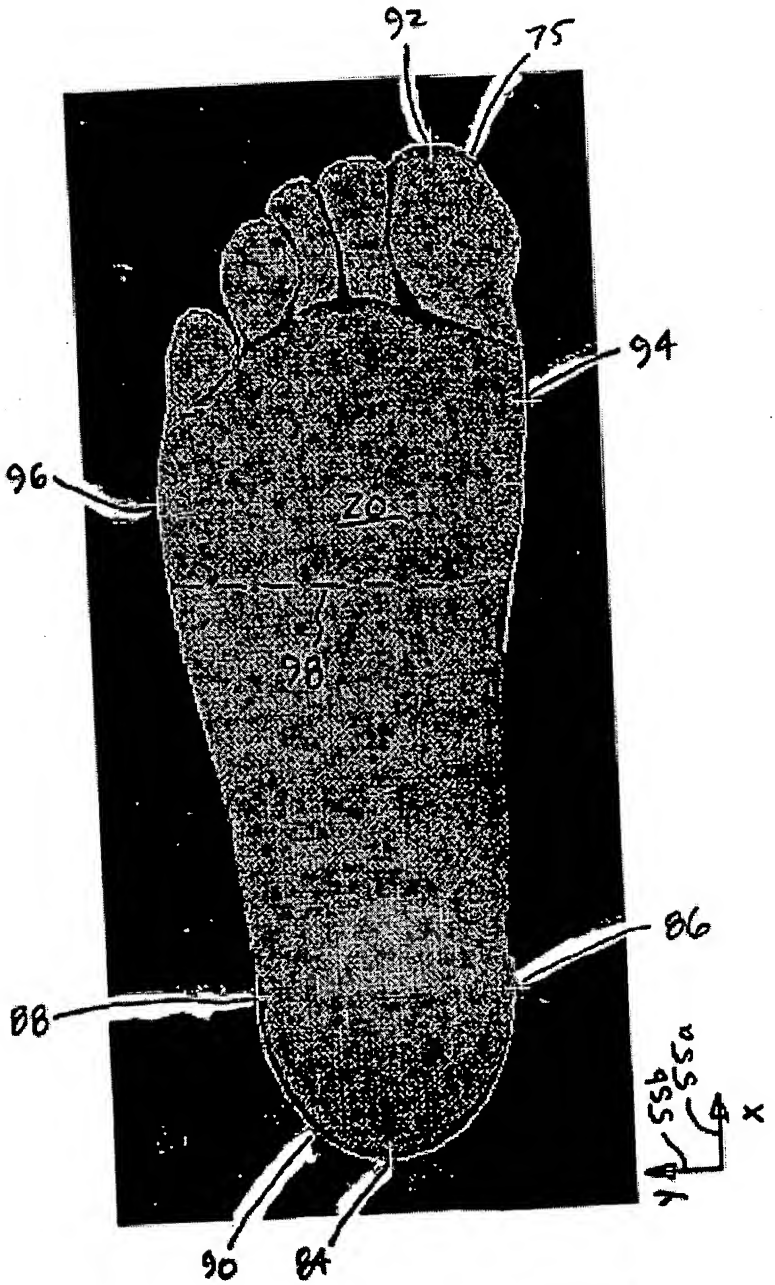

FIGURE 11

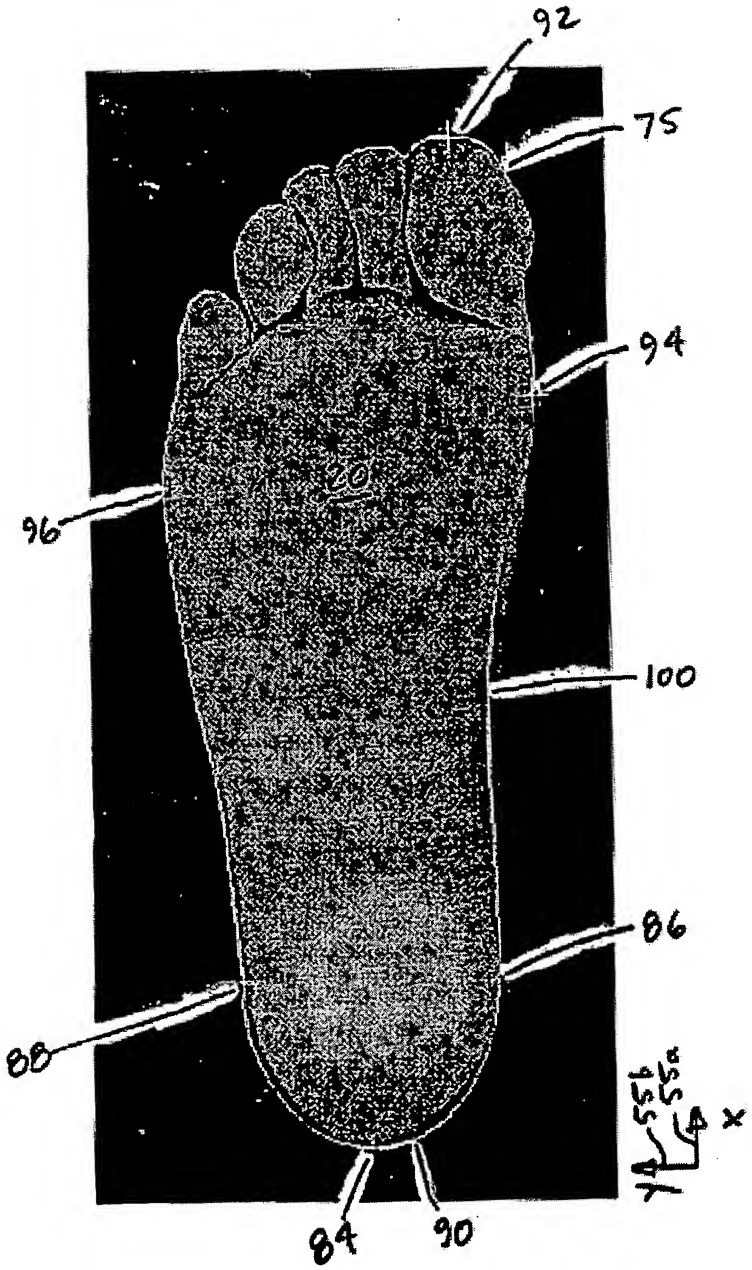

FIGURE 12

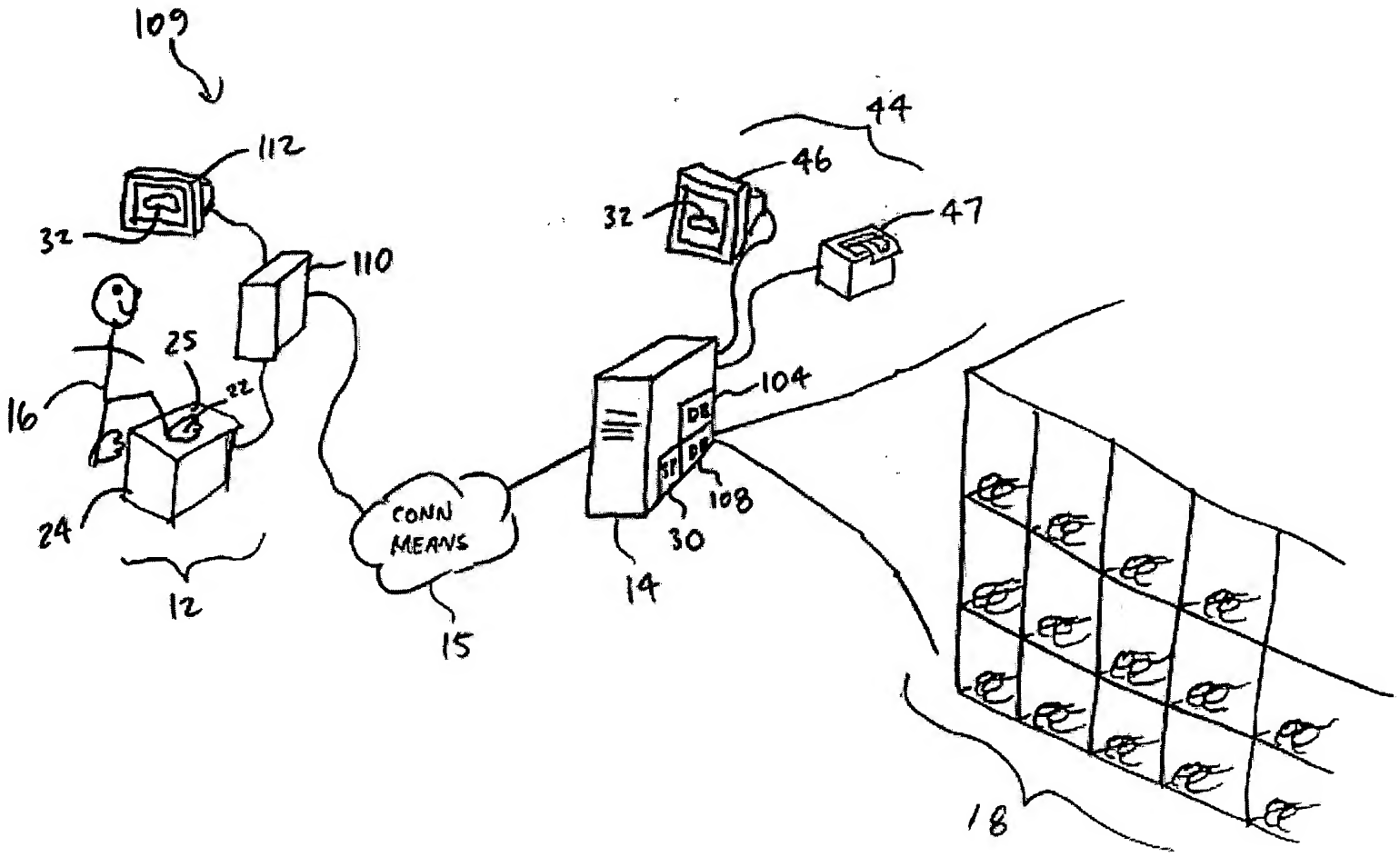
109
112
32
110
25
22
16
24
12
CONN MEANS
15
44
46
32
47
104
DB
ST
DB
108
30
14
18

FIGURE 13